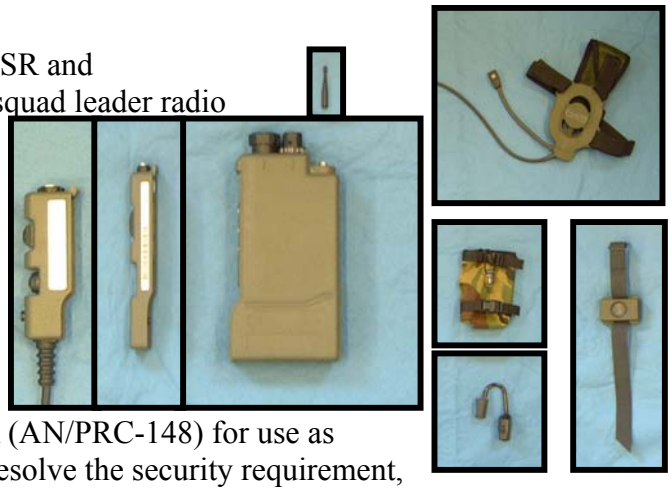
Integrated Intra Squad Radio (ISR)

Purpose: Provide the squad leader an integrated radio that provides the capability for unsecure communications down to the fire teams and secure communications between the squad leaders and up to the platoon commander.



Background: Operational experimentation of the current ISR and Tactical Hand Held Radio (THHR) validated the need for squad leader radio communications to the platoon commander and fire team leader. However, experimentation has revealed that the squad leader will need to be able to receive simultaneous transmissions through the use of a single headset. This leads to the need for a single, integrated squad leader radio that enables communications higher to the platoon commander and lower to the fire team leader. The radio also needs to provide for secure communications between the platoon and squad. The eventual fielding of the THHR (AN/PRC-148) for use as a Type I secure platoon radio to every rifle company will resolve the security requirement, however there is still a need to integrate the Intra Platoon Radio with the ISR for intra squad communications.

Description: The Lab's prototype radio for this effort is the Personal Role Radio (PRR) system. The PRR as is a lightweight radio (less than 550 grams including batteries and ancillaries). The Headset connects into the top of the combined radio pack and has a boom microphone with an NBC respirator adaptor. The Wireless PTT enables the user to transmit without removing their hands from their weapon. The PRR uses Quadrature Phase Shift Keying (QPSK) modulation and spread spectrum techniques and operates in the 2.4 GHz ISM band and provides 256 channels (in 16 groups of 16 channels) in the available bandwidth. Direct sequence spread spectrum signals are inherently noise like and consequently their presence is also difficult to detect. The low transmit power at 2.4 GHz ensures the required range whilst maintaining minimal power consumption minimizing the probability of detection. Low Probability of Detection (LPD) and Low Probability of Intercept (LPI) are inherent to the design of the PRR. Operational experimentation of the PRR by I MEF during 2002 resulted in a Universal Needs Statement (UNS) to replace the current squad radio. The UNS has been signed by the 1st MARDIV Commanding General and has been forwarded to IMEF for approval.

Deliverable Product(s): Recommended material solution and requirement documentation.

Milestones:

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